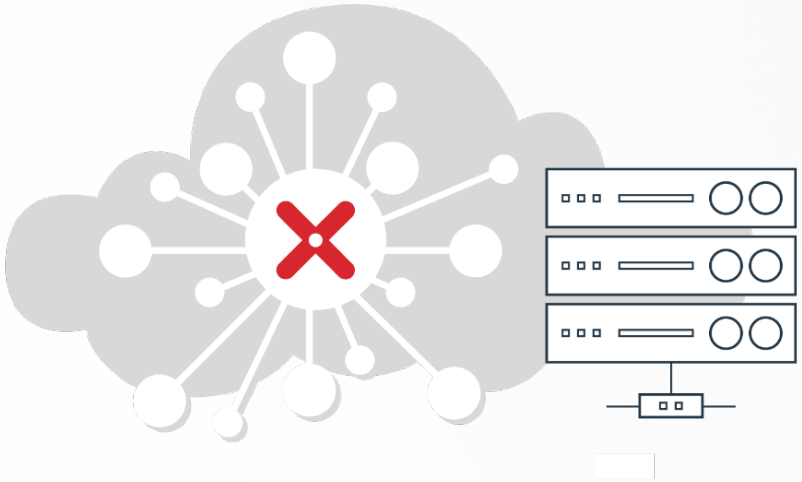
DON’T BE LEFT IN THE DARK

KEEPING 9-1-1 GOING WITH DISASTER RECOVERY, RESILIENCY, AND ANALYTICS

BROOKS SHANNON, VICE PRESIDENT OF GIS

TODAY'S AGENDA

- Discuss the different kinds of disruptions that can impact optimal (and even normal) PSAP operations
- Describe how the cloud can improve resiliency
- Share lessons learned from agencies that have prepared for disruptions and have overcome them using cloud technology
- Talk about what's next – some future capabilities that will help even more
- Discuss how Analytics is critical to keeping PSAP operations running smoothly



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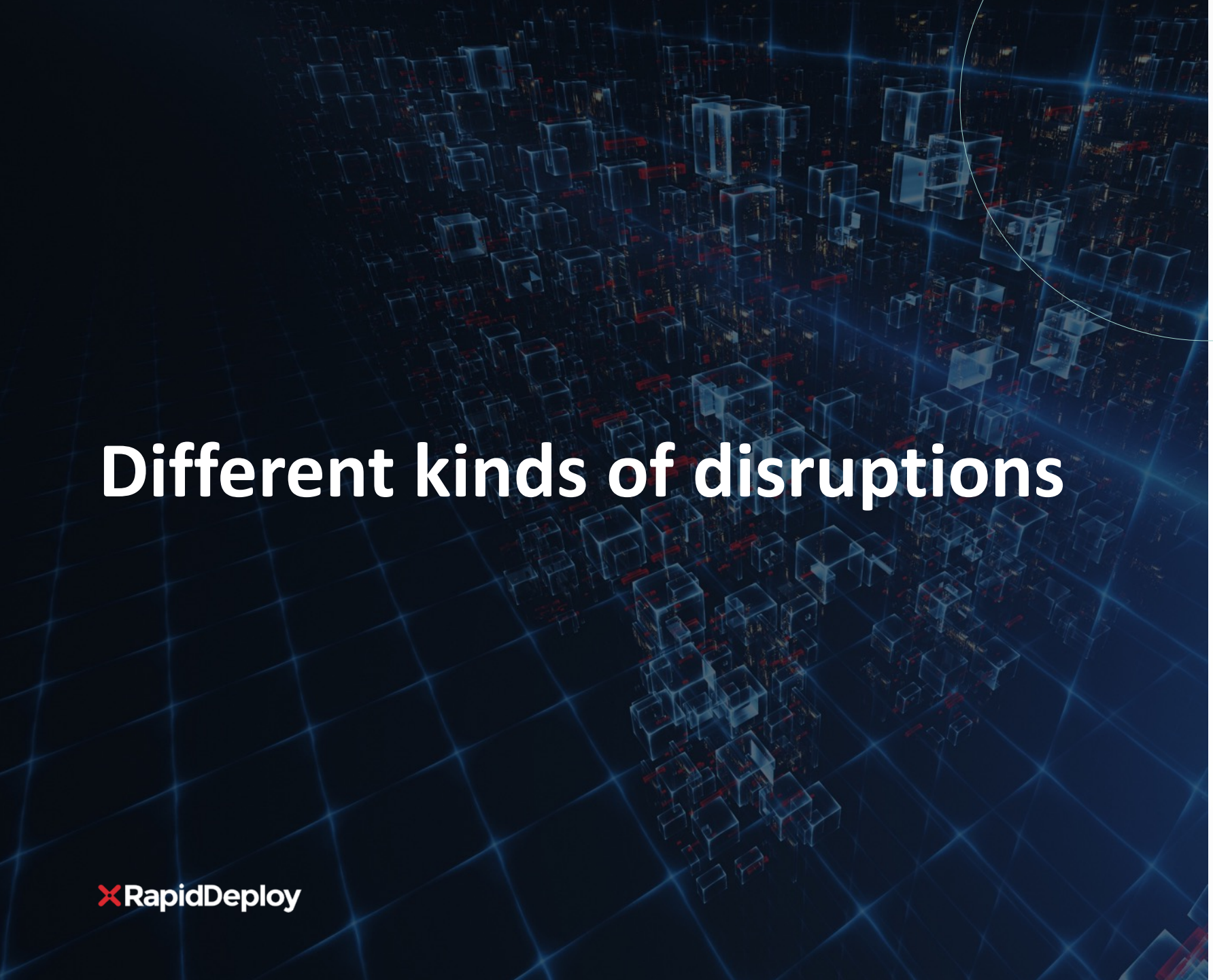

Different kinds of disruptions

Wait, there’s more than just 9-1-1 outages?

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EXAMPLES OF DISRUPTIONS

INTERNAL RISKS

PREVENTABLE

- 9-1-1 service outages such as a fiber cut
- Issues with an individual carrier
- Issues with 9-1-1 service provider (or one of their subsystems)
- PSAP software application crashes and/or bugs
- Planned software upgrades
- Infrastructure (hardware) maintenance
- Security failures – hacking, malware, ransomware, and even physical intrusion

EXTERNAL RISKS

NON-PREVENTABLE

- Unexpected staffing shortfalls (for example, due to illness like COVID-19)
- Too many calls for staff to answer (call overflow)
- Natural disasters such as fires, floods, hurricanes, tornadoes
- Man-made disasters such as acts of terrorism

How the cloud can help

Increase your PSAP’s resiliency through modern technology.

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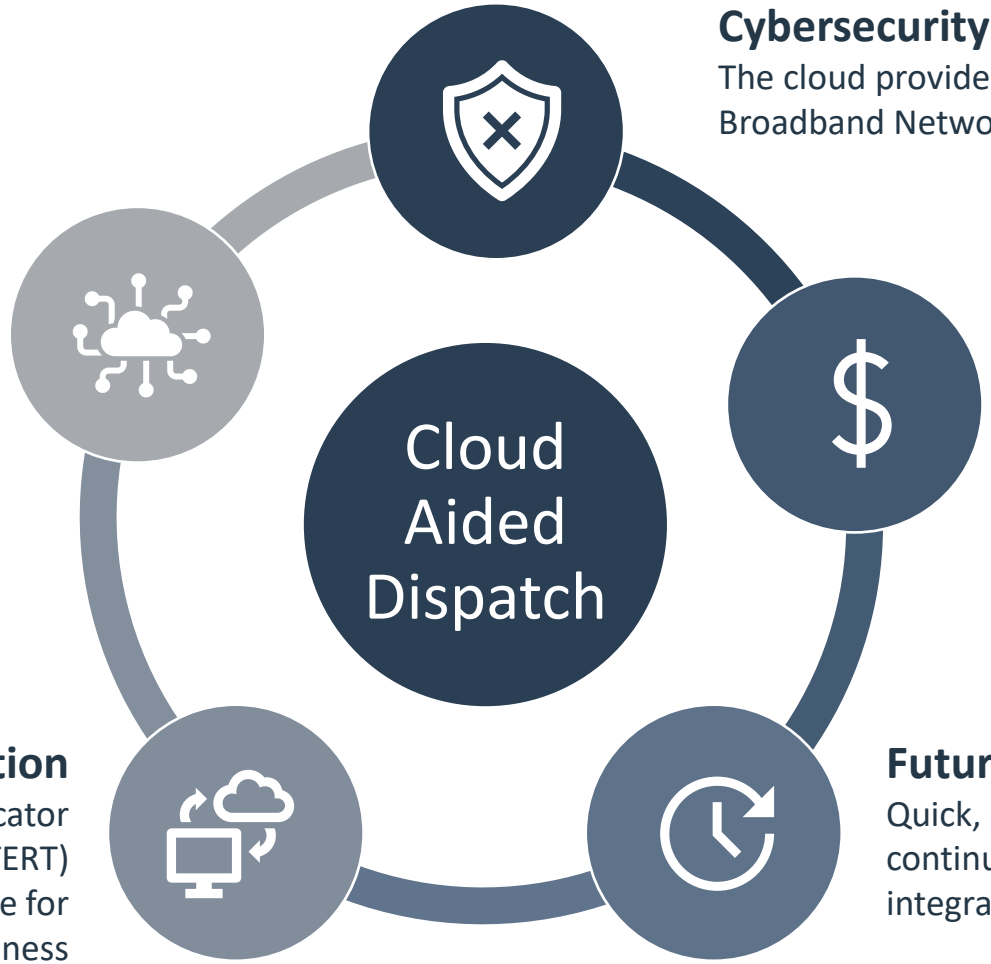
MAKE THE CLOUD YOUR CONTINUITY OF OPERATIONS PLAN



Cybersecurity & Reliability
The cloud provides reliable and secure hosting, and Public Safety Broadband Networks allow for mission critical connectivity

Ease of Deployment
Deployments in months, not years, With no cost for training and reduced training time

Reduced Total Cost of Ownership
Scalable, seat-based pricing

PSAP Virtualization
Virtually deploy Telecommunicator Emergency Response Taskforce (TERT) and allow work-from-home for disaster preparedness

Future-proofed Technology
Quick, seamless updates and upgrades along with continuous evolution of the product by integrating new technologies, data, and services

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CONTROL VERSUS RESPONSIBILITY

The balance of **control** and **responsibility** depends on the category of the service

SaaS: READY TO USE

- Use immediately with minimal configuration

PaaS: SOME ASSEMBLY REQUIRED

- Existing services are a starting point, with additional configuration for a custom fit

IaaS: FOUNDATION TO BUILD ON

- Building blocks, create your own solution or apps from scratch

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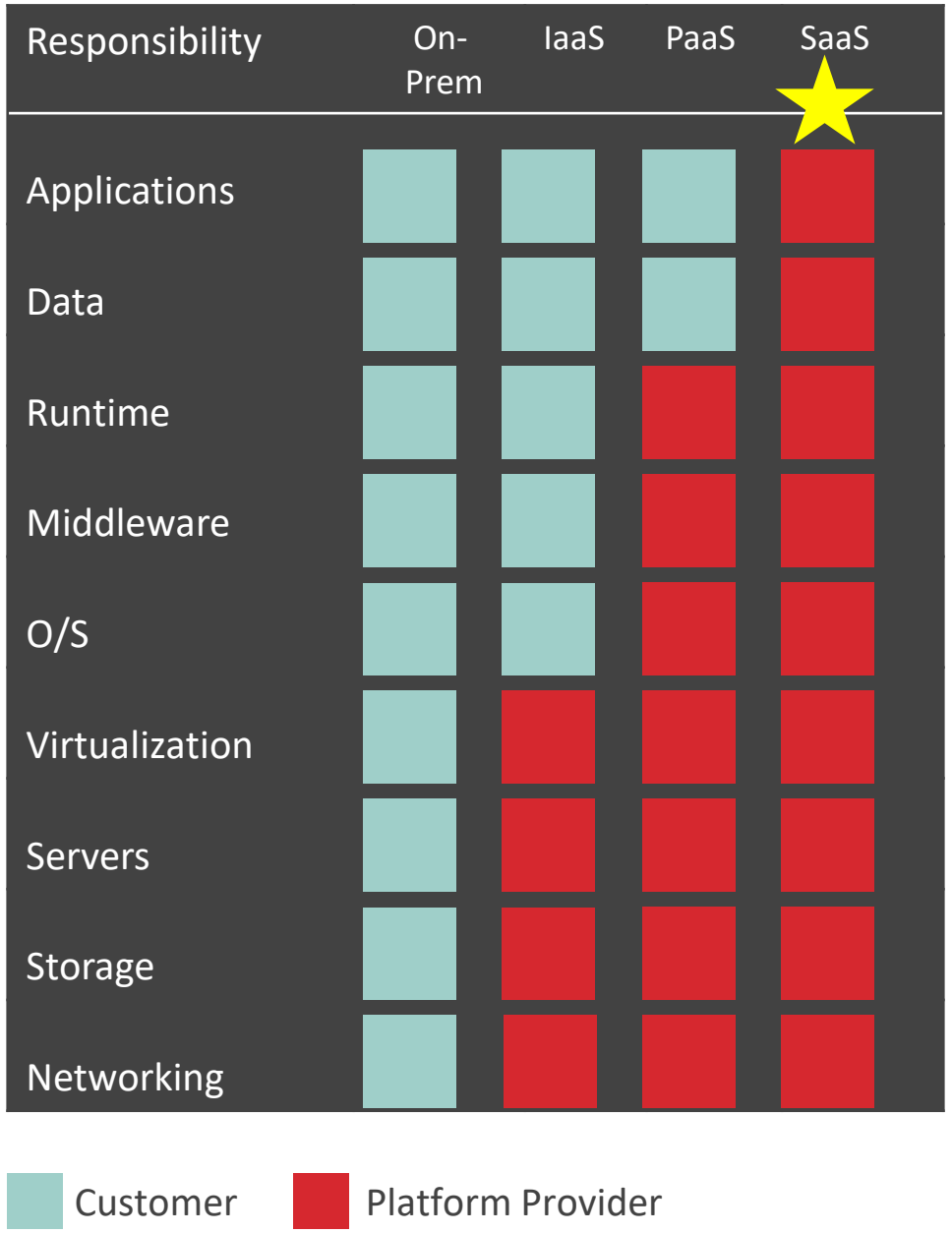
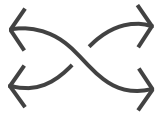


AN EXAMPLE: MICROSOFT AZURE

Productive



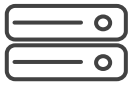
Hybrid

Intelligent

Trusted

Azure Government

Physically separated instance of Microsoft Azure

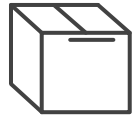


The only hyper-scale cloud built **specifically for U.S. government**

Meets the most complex **compliance standards**

Designed to **exceed U.S. government requirements**

Supports the **broadest selection of services**, tools, and languages



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THE CLOUD-NATIVE ADVANTAGE

RESILIENT SERVICES

- Cloud offers capabilities for high availability, disaster recovery and back-up

RESILIENT FOUNDATION

- Cloud-native systems build cloud capabilities into the platform itself – the foundation, in addition to the cloud, is designed, operated and monitored to ensure availability

Lessons learned

Hear real-life accounts of agencies using cloud computing to keep their operations running.

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RESILIENCY AND REDUNDANCY DURING OUTAGES

Challenge 1

Dialing 9-1-1

When the network goes down, callers may receive a fast busy when dialing 9-1-1.

How will you know that a call was made?

Smartphones can transmit supplemental location data using Google ELS and Apple EED.

Solution

The attempt to make an emergency call is known at the PSAP, and the agency can take steps to respond, such as using Text From 911 to communicate with the caller.

RESILIENCY AND REDUNDANCY DURING OUTAGES

Challenge 2

Answering the 9-1-1 Call

When the network goes down, calls may be routed to other PSAPs.

How will you know a call was made?

How will the other agency have access to critical location and additional data?

Solution

When widely deployed, cloud-hosted systems can provide location information, maps, and additional data well beyond PSAP borders *and* show which PSAPs have answered misrouted calls.

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RESILIENCY AND REDUNDANCY DURING OUTAGES

Challenge 3

Dispatching a Response to the 9-1-1 Call

Backup PSAPs don’t have access to unit status and a vailability, response plans, and additional data from the agency that normally handles those calls.

The backup PSAP typically relies on telephone and LMR to communicate with responders and the agencies.

Couldn’t that be improved?

Solution

For robust resilient end-to-end workflows across jurisdictional boundaries, a regional or statewide disaster recovery CAD solution connects agencies together.

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The future

What advancements are on the horizon that will help even more?

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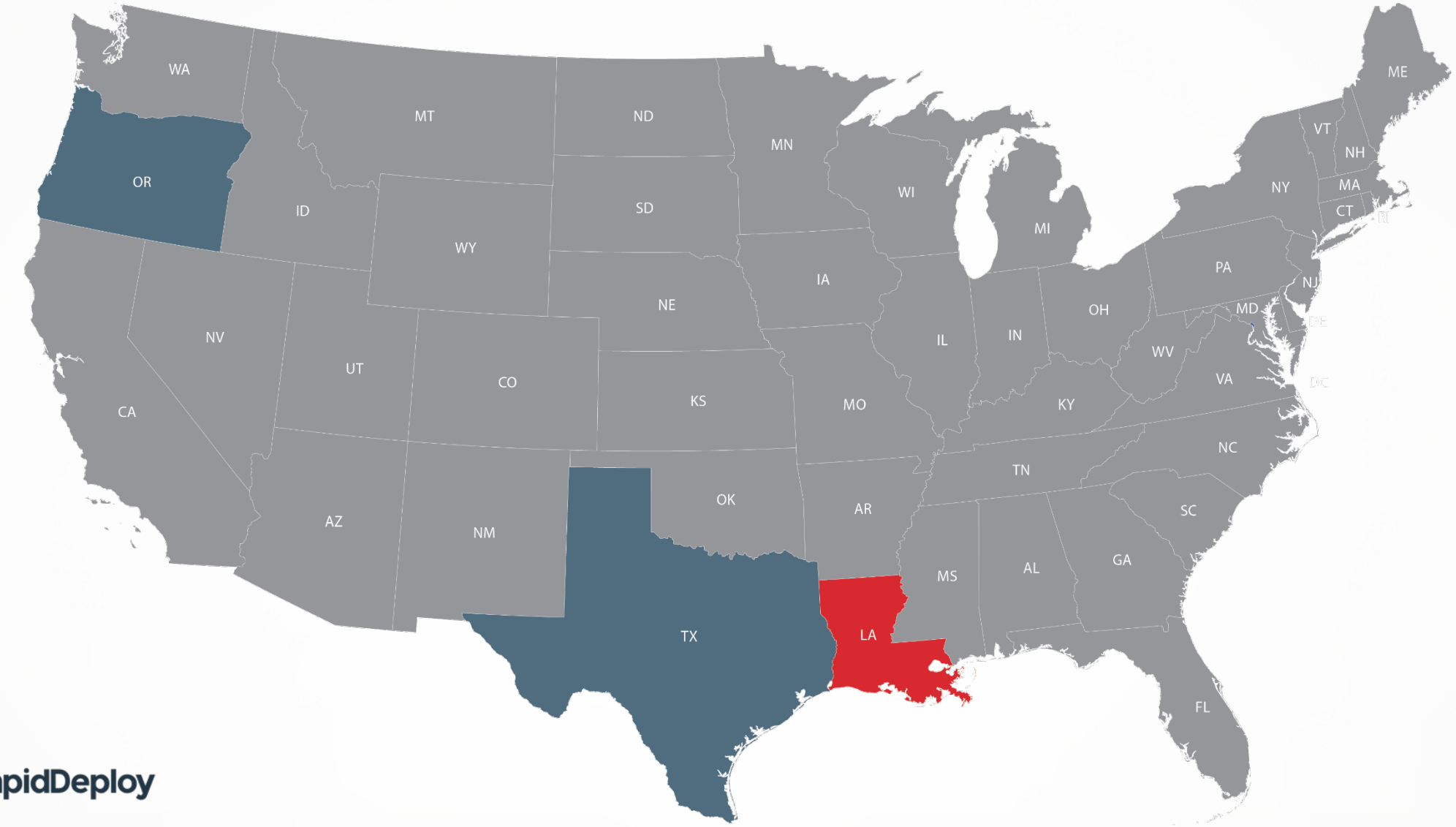
IMPROVING RESILIENCY WITH NG9-1-1



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NG9-1-1 AS A FOUNDATION

An architecture that facilitates recovery, resiliency, and interoperability, that evolves as technology advances.

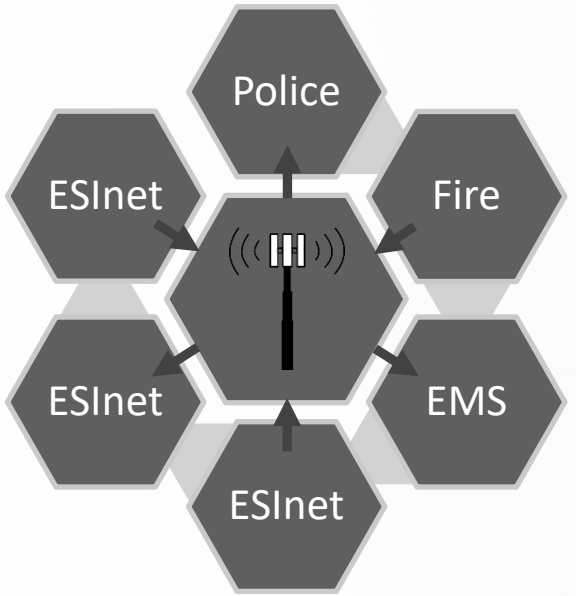
GIS Data Exchange

GIS Provisioned Using the SI

Call and Incident Data Exchange

EIDO and the IDX

PSBN and ESInet Interconnection



IP Between Networks

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Analytics

How can insights, driven by data, keep the PSAP running smoothly?

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ACTIONABLE INSIGHTS FOR MORE EFFICIENT OPERATIONS

Monitoring & Alerting

Identify data interruptions and uncontrolled situations as they happen. Trunk outages, spikes in call volume, and deterioration in answer time performance.

Empowered Leaders

Empowerment begins with insightful, actionable data that is scalable and flexible from your frontline to your leadership.

Staffing Analytics

Visualize volume trends and optimize staffing levels. Reduce telecommunicator burnout by anticipating demand. Understanding of call volume variations and changes to answer time goals.

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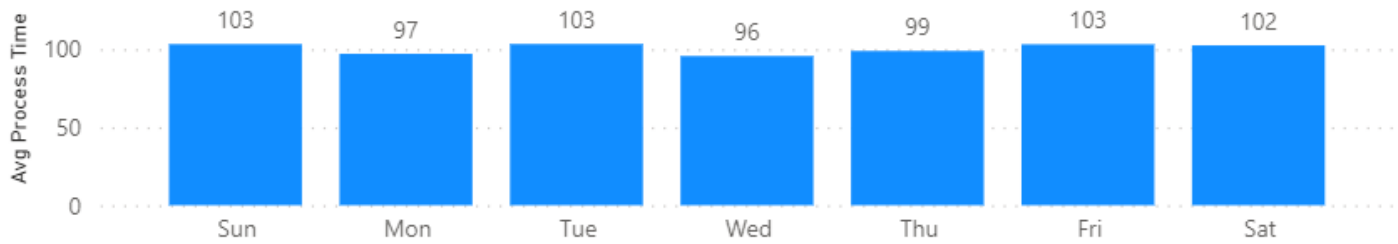
Settings & Historical Values

Call Takers | Service Level

Target Service Level	Available Call Takers	Answer Time Goal (s)	Target Call Taker Processing Time (s)	Volume Adjustment %
90.00%	2	10	181	0.00%

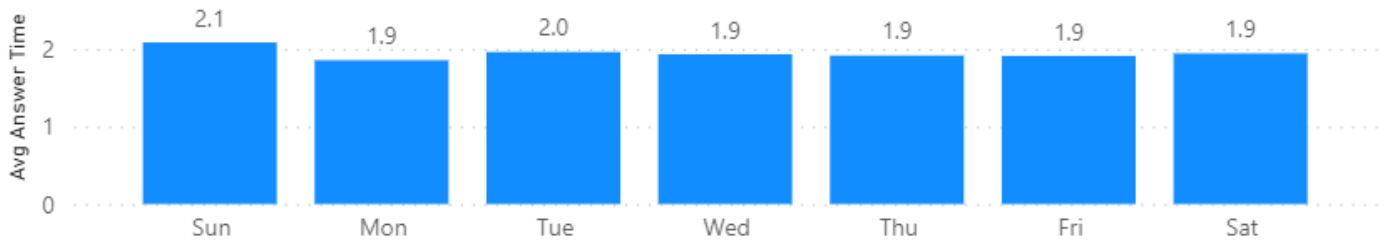
100.46
Avg Process Time

Avg Process Time by Day



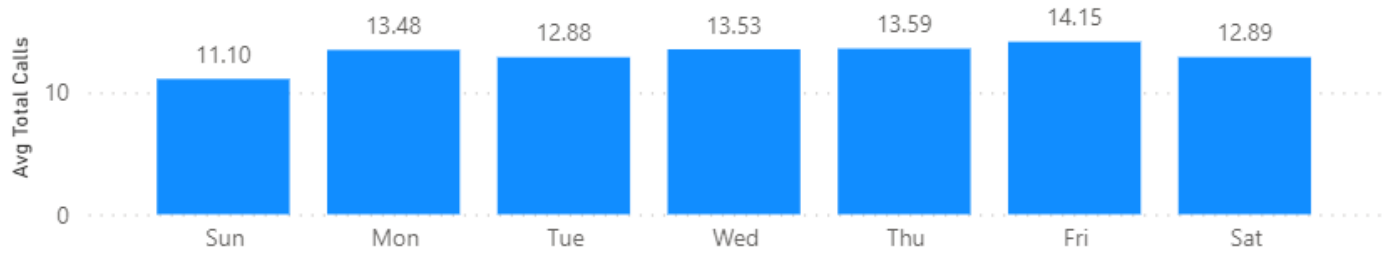
1.94
Avg Answer Time

Avg Answer Time by Day



13.09
Avg Calls per Hour

Avg Total Calls by Day



Date Range
5/30/2019 8/29/2020

Relative Date Range
Last 1 Select

No filters applied

PSAP
PSAP A

Call Type
All

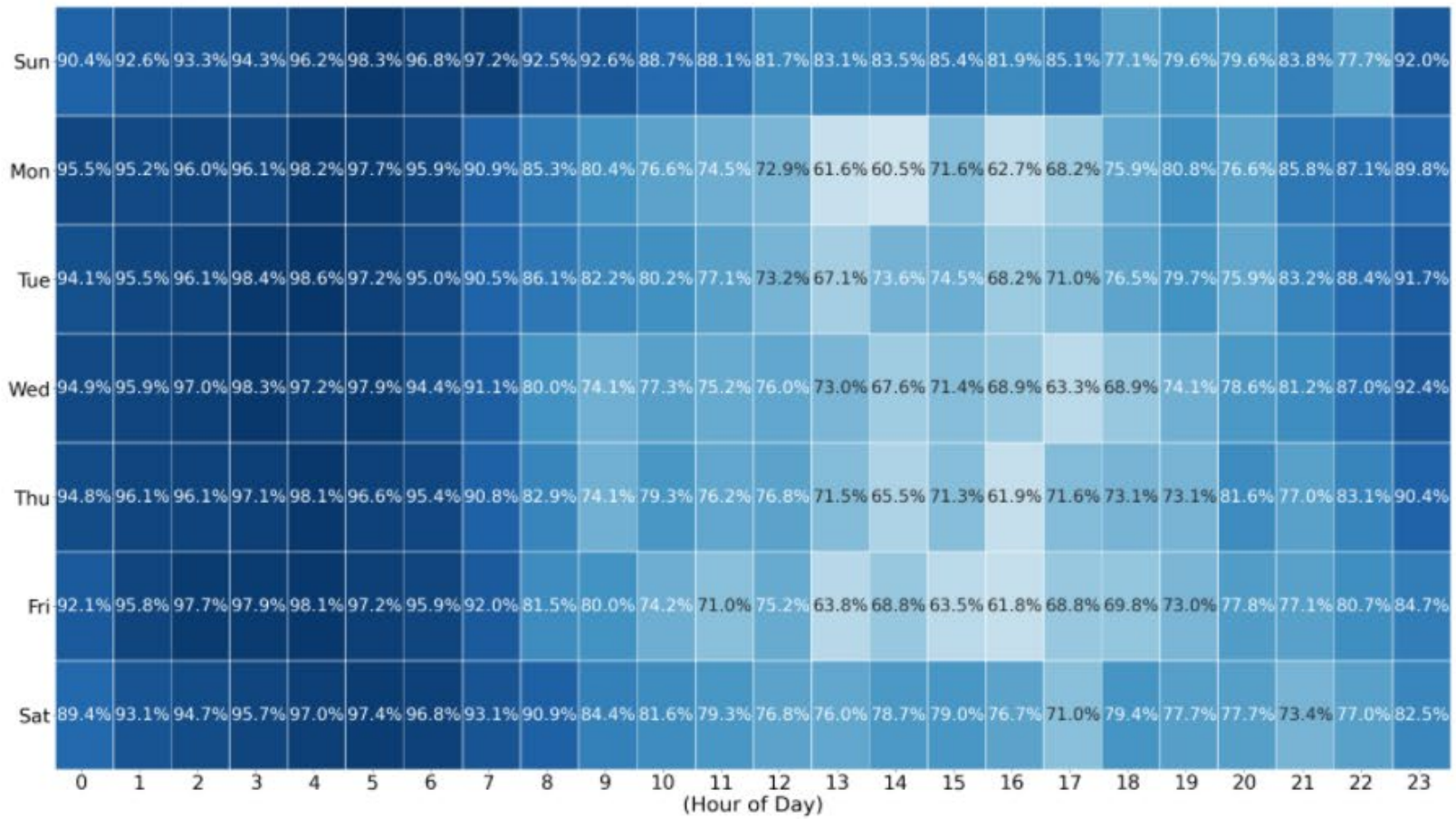
V 1.0

POWERED BY RapidDeploy

Staffing Module - Service Level View

Call Takers | Settings

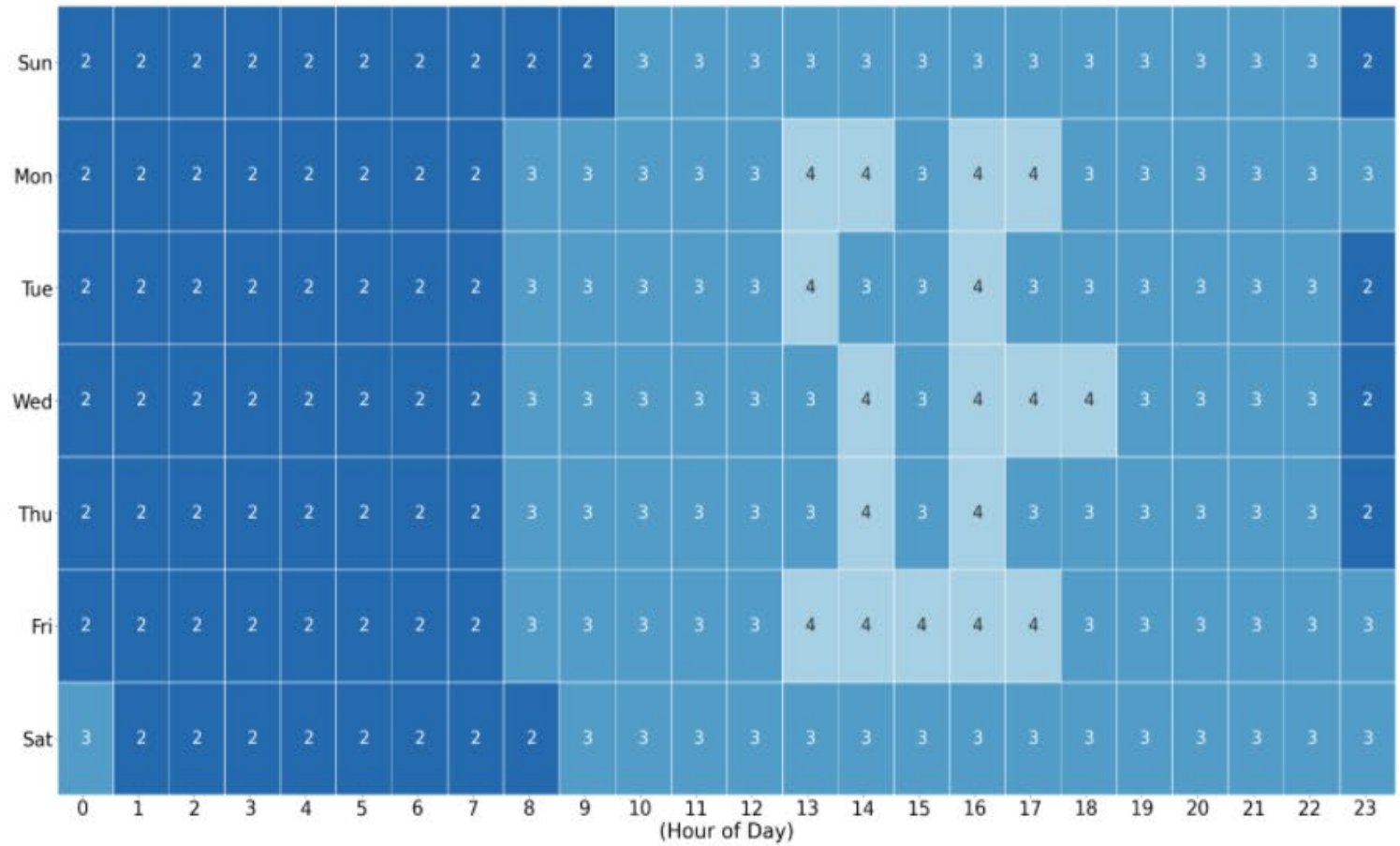
2	10	181	0.00%
Available Call Takers	Target Answer Time (s)	Target Call Taker Processing Time (s)	Volume Adjustment



Staffing Module - Call Taker View

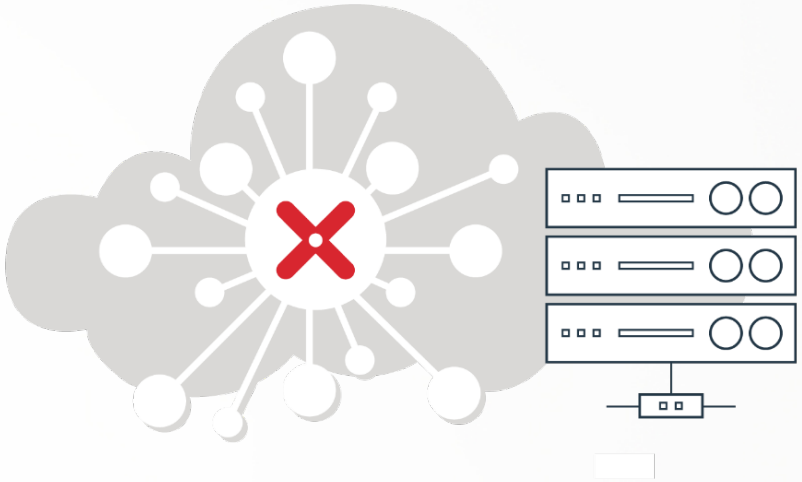
Service Level | Settings

90.00%	10	181	0.00%
Target Service Level	Target Answer Time (s)	Target Call Taker Processing Time (s)	Volume Adjustment



CONCLUSION

- 9-1-1 disruptions come in all shapes and sizes
- The cloud helps overcome those disruptions
- Agencies across the United States are using the cloud to protect their 9-1-1 operations today
- The continued adoption of emerging standards and technology will add even more resiliency
- Data-driven insights are critical to keeping PSAP operations running smoothly



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Q&A

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Thank You